

Remarks

Claims 1-37 remain pending. Claims 1, 25, and 36 are independent claims. Claims 1, 3, 5, 7, 11-14, 17, 18, 20, 22, 23, and 25-36 have been amended. Claims 37 has been newly added.

New claim 37 is supported at least at paragraph [0044] of the original specification.

Applicants thank the Examiner for indicating that claims 4, 11, 15, 16, 20, 22, and 28 would be allowable if rewritten in independent form including all of the limitation of the base claim and any intervening claims. However, Applicants submit that claims 1-37 submitted herewith are allowable and request reconsideration of the claims having regard to the following remarks.

Applicants have taken this opportunity to amend the claims to recite features of the claimed invention in an active manner by replacing the preposition "for" with the preposition "to" throughout the claims. Applicants have also amended certain typographical errors in the claims. No new subject matter has been added by virtue of these amendments.

Applicants submit that the amendments do not substantively alter the scope of the claims and, therefore, no additional search is required by the Examiner.

Amendments to Specification

Applicants have taken this opportunity to correct typographical errors in the specification at paragraphs [0046] and [0053].

Claim Rejections – 35 USC 101

The Examiner rejected claim 36 as being directed to a functional descriptive material. Applicants have amended the preamble of claim 36 to recite a scrambler circuit for use with a data transmission apparatus. Support for this amendment exists at least at paragraph [0084] of the original specification. Withdrawal of the rejection under 35 USC 101 is respectfully requested.

The Examiner rejected claims 25-35 as not falling within one of the four statutory categories of invention. Applicants have amended the preamble of claims 25-35 to recite a computer-implemented method, thereby tying the claimed subject matter to a particular machine as suggested by the Examiner. Withdrawal of the rejection under 35 USC 101 is respectfully requested.

Claim Rejections – 35 USC 112

The Examiner rejected claims 5 and 29 as failing to provide sufficient antecedent basis for “the first and second scrambling patterns.” Applicants have amended claim 5 to depend from claim 3 and have amended claim 29 to depend from claim 27. Suitable antecedent basis now exists for the first and second scrambling patterns. Withdrawal of the rejections under 35 USC 112 is respectfully requested.

Claim Rejections – 35 USC 102

The Examiner rejected claims 1, 3, 24, 25, 27, and 36 as being anticipated by U.S. Patent No. 6,771,655 (O'Loughlin et al). Applicants respectfully disagree and request reconsideration of the rejections having regard to the following remarks.

Applicants submit that O'Loughlin et al fails to teach or suggest each and every element of independent claims 1, 25, and 36 submitted herewith. Specifically, O'Loughlin et al does not teach or suggest a scrambler or a scrambling sequence function as claimed in independent claims 1, 25, and 36 submitted herewith.

The Examiner at page 4 of the Office Action dated May 28, 2009, stated that “Figure 1 shows a splitting of ingress data into sub-group.” However, the Examiner has not shown that O'Loughlin teaches or suggests a scrambler “to scramble the first and second sub-groups according to a scrambling sequence function to provide a combined scrambled output of the first and second sub-groups having a constant number of toggled bits with respect to time” as claimed in claim 1. Claims 25 and 36 recite similar features.

In fact, a careful reading of O'Loughlin et al shows that there is no mention of a scrambler or a scrambling sequence function. Figure 1 of O'Loughlin et al merely shows a schematic block diagram of a data communication environment for managing data transportation from a set of data servers to data consumers. Nowhere does O'Loughlin et al describe a scrambler or a scrambling sequence function as claimed in independent claims 1, 25, and 36 submitted herewith.

In part, the apparatus and method as claimed herein provide a solution to minimize or eliminate electrical current demand variations when broadcasting data to a large number of destinations. As described, for example, at paragraph [0059] of the original specification:

...the current management scrambling blocks significantly reduce or eliminate current demand variations for the logic and wiring in the fanout tree by splitting the fanout of ingress data from each ingress port to the egress ports into groups. The data destined for each group is further split into two sub-groups. Data for each sub-group is scrambled using a sequence that is calculated to maintain the number of toggles of the two sub-groups at a constant sum during each grain.

In contrast, O'Loughlin et al is primarily concerned with managing data transportation from a set of data servers to data consumers and not with reducing or eliminating current demand variations during data transportation. O'Loughlin et al does not teach or suggest any means for minimizing or eliminating current demand variations, let alone the use of a scrambler or a scrambling sequence function as claimed herein.

Thus, Applicants submit that O'Loughlin et al fails to teach or suggest each and every element of independent claims 1, 25, and 36 submitted herewith. Consequently, O'Loughlin et al does not anticipate independent claims 1, 25, and 36, nor their respective dependent claims.

Withdrawal of the rejections under 35 USC 102 is respectfully requested.

The Examiner rejected claims 1-3, 5-10, 12-14, 17-19, 21, 23-27, and 29-36 as being anticipated by U.S. Patent No. 7,209,477 (Pike). Applicants note that the Examiner, at item 10

of the Office Action dated May 28, 2009, has included claims 4 and 28 as being anticipated by Pike, while indicating that claims 4 and 28 are allowable at item 11 of the Office Action.

Therefore, Applicants understand claims 4 and 28 as being allowable.

Applicants respectfully disagree with the Examiner's assertion with respect to Pike and request reconsideration of the rejections having regard to the following remarks.

Pike teaches a method and system for controlling a communication switch having shelves. The system comprises a master controller generating commands and receiving status signals, slaves associated with the master controller, a communication controller for each slave, a downstream communication link comprising a multiplexed signal gathering communications from each communication controller into a single multiplexed stream and providing a demultiplexed signal split from the single multiplexed stream to each slave, an upstream communication link from each slave to its communication controller, and a timing arrangement controlling transmission times of communications carried on the downstream communication link (see Pike at column 1, lines 34-45).

Pike does not teach or suggest each and every element of independent claims 1, 25, and 36 submitted herewith. Specifically, Pike does not teach or suggest a scrambler or a scrambling sequence function as claimed in independent claims 1, 25, and 36 submitted herewith.

The Examiner at page 5 of the Office Action dated May 28, 2009, has mapped various features of claim 1 to elements described by Pike. Specifically, the Examiner has mapped the scrambler to element 410; the first and second sub-groups to element 414 and the scrambling sequence function to Figure 4B and column 7, line 1-25 along with Figure 6 of Pike. However, Applicants respectfully submit that element 410 of Pike is merely a TDM Demux (as are elements 414) and not a scrambler as claimed in independent claims 1, 25, and 36 submitted herewith.

Moreover, Pike provides, at column 7, lines 1-25, a description of the various elements of Figure 4B. Nowhere does Pike refer to the TDM Demux 410 and 414 as scramblers or providing a scrambling sequence function as claimed in independent claims 1, 25, and 36 submitted herewith.

As stated with respect to O'Loughlin, there is no mention of a scrambler or a scrambling sequence function in Pike. A TDM Demux is not the same as a scrambler as claimed in independent claims 1, 25, and 36 submitted herewith. Nor does Pike teach or suggest that the first and second sub-groups have substantially equal parasitic capacitance, contrary to the Examiner's assertion. In fact, there is no reference to parasitic capacitance in Pike at all.

Furthermore, the HDLC i/f blocks 418 shown in Figure 4B of Pike are not the same as ingress and egress ports as claimed in independent claims 1, 25, and 36 submitted herewith. The HDLC i/f blocks of Pike are communications end-points for sending and receiving status and control between the sub-shelves and the shelf controller. Thus, the HDLC i/f blocks are elements in the control plane of a switch. The ingress and egress ports of independent claims 1, 25 and 36 submitted herewith are ports where client payload is received and transmitted, thus, the ingress and egress ports are elements in the data plane of a switch.

It is evident that Pike fails to teach or suggest each and every element of independent claims 1, 25, and 36 submitted herewith. Consequently, Pike does not anticipate independent claims 1, 25, and 36, nor their respective dependent claims. Withdrawal of the rejections under 35 USC 102 is respectfully requested.

Applicants submit that all of the Examiner's rejections have been addressed and accordingly requests early reconsideration of this application.

The Commissioner is hereby authorized to charge any additional fees, and credit any over payments, to Deposit Account No. 501593, in the name of Borden Ladner Gervais LLP.

Respectfully submitted,

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